



Practice

2.4 Operations With Functions

Find $f + g$ and $f - g$.

1. $f(x) = 7x^2 + 5x$; $g(x) = x^2 - 13$ _____

2. $f(x) = 41 - 5x$; $g(x) = 13x^2$ _____

3. $f(x) = x^2 + \frac{1}{3}x + 9$; $g(x) = -7x - 7$ _____

4. $f(x) = -9x^2 + 6$; $g(x) = 12x^2$ _____

Find $f \cdot g$ and $\frac{f}{g}$. State any domain restrictions.

5. $f(x) = 35x + 5$; $g(x) = 5$ _____

6. $f(x) = x^2 + 25$; $g(x) = 3x + 17$ _____

7. $f(x) = x^2 + 16$; $g(x) = x^2 - 16$ _____

Let $f(x) = -2x - 2$ and $g(x) = x + 10$. Find each new function, and state any domain restrictions.

8. $f + g$ _____

9. $f - g$ _____

10. $g - f$ _____

11. $f \cdot g$ _____

12. $\frac{f}{g}$ _____

13. $\frac{g}{f}$ _____

Find $f \circ g$ and $g \circ f$.

14. $f(x) = 3x - 2$; $g(x) = \frac{1}{3}(x + 2)$ _____

15. $f(x) = 4x$; $g(x) = x^2 - 1$ _____

16. $f(x) = -x^2 + 1$; $g(x) = x$ _____

Let $f(x) = 11x$, $g(x) = x^2 - 5$, and $h(x) = 2(x - 4)$. Evaluate each composite function.

17. $(f \circ g)(-1)$ _____

18. $(h \circ f)(-2)$ _____

19. $(h \circ g)(2)$ _____

20. $(g \circ h)(4)$ _____

21. $(g \circ f)(0)$ _____

22. $(f \circ h)(5)$ _____

23. $(f \circ g)(0)$ _____

24. $(h \circ h)(-1)$ _____

25. $(f \circ f)(2)$ _____